

## SEQUENCE LISTING

<110> KIRIN BEER KABUSHIKI KAISHA  
MIKAYAMA, Toshifumi  
YOSHIDA, Hitoshi  
FORCE, Walker, R.  
CHEN, Xingjie  
TAKAHASHI, Nobuaki

<120> ANTI CD40 MONOCLONAL ANTIBODY

<130> 021286-0306473

<140> To be assigned

<141> Herewith

<150> PCT/US01/13672

<151> 2001-04-27

<150> US09/844,684

<151> 2001-04-27

<150> JP2001/142482

<151> 2001-05-11

<150> JP2001/310535

<151> 2001-10-05

<150> US10/040,244

<151> 2001-10-26

<160> 66

<170> PatentIn Ver. 2.1

<210> 1  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 1  
cccagatctg tccatccaga accacccact gcatgcagag 40

<210> 2  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 2  
acaagatctg ggctctacgt atctcagccg atcctgggga c 41

<210> 3  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 3  
ggtcggggag atcatgaggg tgtcctt 27

<210> 4  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 4  
gtgcacgccg ctggtcaggg cgcctg 26

<210> 5  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 5  
gctggagggc acggtcacca cgctg 25

<210> 6  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 6  
ggtgccaggg ggaagaccga tgg 23

<210> 7  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 7  
atatgtcgac gctgaattct ggctgaccag ggcag 35

<210> 8  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 8  
atatgtcgac tcccaggtgt ttccattcag tgatcag 37

<210> 9  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 9  
atatgtcgac ttccattcgg tgatcagcac tgaacac 37

<210> 10  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 10  
atatgtcgac ttgagagtc ctggacctcc tgtg 34

<210> 11  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 11  
atatgtcgac gagtcatgga tctcatgtgc aag 33

<210> 12  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 12  
atatgtcgac ccagggcagt caccagagct ccagac 36

<210> 13  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 13  
accgtgtcga ctacgoggga gtgact 26

<210> 14  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 14  
accgtgtcga cgctgatcag gactgcaca 29

<210> 15  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 15  
accgtgtcga cggatgatcag gactgaacag 30

<210> 16  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 16  
gttgaagctc tttgtgacgg gcgagc

26

<210> 17  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 17  
tctttctccac ggtgctccct tcat

24

<210> 18  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic DNA

<400> 18  
atatagatct gaactgctca gttaggaccc agagg

35

<210> 19  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 19  
atatagatct cgcggggaag gagactgctc agtt 34

<210> 20  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 20  
atatagatct agtcagaccc agtcaggaca cagc 34

<210> 21  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 21  
atatagatct gagctgctca gtaggaccc agaggg 36



<210> 22  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 22  
atatagatct taagcaagtg taacaactca gagtac 36

<210> 23  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 23  
atatagatct gaggaactgc tcagttagga cccagagg 38

<210> 24  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 24  
aactccagat ctgcctcagg aagcagcatc 30

<210> 25  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 25  
aactccagat ctagggcaag cagtggtaac 30

<210> 26  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Synthetic DNA

<400> 26  
tggcgggaag atgaagacag atggtg 26

<210> 27  
<211> 1480  
<212> DNA  
<213> Homo sapiens

<400> 27  
gtcgacgctg aattctggct gaccagggca gccaccagag ctccagacaa tgtctgtctc 60  
cttctctatc ttctgccccg tgctgggcct cccatgggggt gtcctgtcac aggtccaact 120  
gcagcagtca ggtccaggac tgggtgaagcc ctgcagacc ctctcactca cctgtgccat 180  
ctccggggac agtgtctcta gcaacagtgc tacttggaac tggatcaggc agtccccatc 240  
gagagacctt gagtggctgg gaaggacata ctacaggctc aagtgggtatc gtgattatgt 300  
aggatctgtg aaaagtcgaa taatcatcaa cccagacaca tccaacaacc agttctccct 360  
gcagctgaac tctgtgactc ccgaggacac ggctatatat tactgtacaa gagcacagtg 420  
gctgggaggg gattaccctt actactacag tatggacgtc tggggccaag ggaccacggt 480  
cacgtctctt tcagcctcca ccaagggcc atcggtcttc cccctggcgc cctgtccag 540  
gagcacctcc gagagcacag cggccctggg ctgcctggtc aaggactact tccccgaacc 600  
ggtgacggtg tcgtggaact caggcgctct gaccagcggc gtgcacacct tcccagctgt 660

```

cctacagtcc tcaggactct actccctcag cagcgtgggtg accgtgccct ccagcaactt 720
cggcaccacg acctacacct gcaacgtaga tcacaagccc agcaacacca aggtggacaa 780
gacagttgag cgcaaattgt gtgtcgagtg cccaccgtgc ccagcaccac ctgtggcagg 840
accgtcagtc ttctcttctc ccccaaaacc caaggacacc ctcatgatct cccggacccc 900
tgaggtcacg tgcgtgggtg tggacgtgag ccacgaagac cccgaggtcc agttcaactg 960
gtacgtggac ggcgtggagg tgcataatgc caagacaaaag ccacgggagg agcagttcaa 1020
cagcacgttc cgtgtgggtc gcgtcctcac cgttgtgcac caggactggc tgaacggcaa 1080
ggagtacaag tgcaaggtct ccaacaaagg cctcccagcc cccatcgaga aaaccatctc 1140
caaaacaaaa gggcagcccc gagaaccaca ggtgtacacc ctgcccccat cccgggagga 1200
gatgaccaag aaccaggtca gcctgacctg cctgggtcaaa ggcttctacc ccagcgacat 1260
cgccgtggag tgggagagca atgggcagcc ggagaacaac tacaagacca cacctcccat 1320
gctggactca gacggctcct tcttctctta cagcaagctc accgtggaca agagcaggtg 1380
gcagcagggg aacgtcttct catgctccgt gatgcatgag gctctgcaca accactacac 1440
gcagaagagc ctctccctgt ctccgggtaa atgaggatcc 1480

```

<210> 28

<211> 474

<212> PRT

<213> Homo sapiens

<400> 28

```

Met Ser Val Ser Phe Leu Ile Phe Leu Pro Val Leu Gly Leu Pro Trp
  1                   5                   10                   15

```

```

Gly Val Leu Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val
          20                   25                   30

```

```

Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys Ala Ile Ser Gly Asp Ser
          35                   40                   45

```

```

Val Ser Ser Asn Ser Ala Thr Trp Asn Trp Ile Arg Gln Ser Pro Ser
          50                   55                   60

```

```

Arg Asp Leu Glu Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr
          65                   70                   75                   80

```

```

Arg Asp Tyr Val Gly Ser Val Lys Ser Arg Ile Ile Ile Asn Pro Asp
          85                   90                   95

```

```

Thr Ser Asn Asn Gln Phe Ser Leu Gln Leu Asn Ser Val Thr Pro Glu
          100                   105                   110

```

Asp	Thr	Ala	Ile	Tyr	Tyr	Cys	Thr	Arg	Ala	Gln	Trp	Leu	Gly	Gly	Asp	115	120	125
Tyr	Pro	Tyr	Tyr	Tyr	Ser	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	130	135	140
Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	145	150	155
Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu	Gly	Cys	Leu	165	170	175
Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	180	185	190
Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	195	200	205
Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Asn	Phe	210	215	220
Gly	Thr	Gln	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	Pro	Ser	Asn	Thr	225	230	235
Lys	Val	Asp	Lys	Thr	Val	Glu	Arg	Lys	Cys	Cys	Val	Glu	Cys	Pro	Pro	245	250	255
Cys	Pro	Ala	Pro	Pro	Val	Ala	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	260	265	270
Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	275	280	285
Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Gln	Phe	Asn	Trp	290	295	300
Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	305	310	315
Glu	Gln	Phe	Asn	Ser	Thr	Phe	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Val	325	330	335

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn  
 340 345 350

Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly  
 355 360 365

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu  
 370 375 380

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr  
 385 390 395 400

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn  
 405 410 415

Asn Tyr Lys Thr Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe  
 420 425 430

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn  
 435 440 445

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr  
 450 455 460

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
 465 470

<210> 29

<211> 406

<212> DNA

<213> Homo sapiens

<400> 29

actgctcagt taggacccag agggaaacct ggaagcccca gctcagcttc tcttcctcct 60  
 gctactctgg ctcccagata ccaccggaga aattgtgttg acacagtctc cagccaccct 120  
 gtctttgtct ccaggggaaa gagccaccct ctctgcagg gccagtcaga gtgttagcag 180  
 ctacttagcc tggtagcaac agaaacctgg ccaggctccc aggtcctca tctatgatgc 240  
 atccaacagg gccactggca tcccagccag gttcagtggc agtgggtctg ggacagactt 300  
 cactctcacc atcagcagcc tagagcctga agattttgca gtttattact gtcagcagcg 360  
 tagcaacact ttcggccctg ggaccaaagt ggatatcaaa cgtacg 406

<210> 30  
 <211> 126  
 <212> PRT  
 <213> Homo sapiens

<400> 30  
 Met Glu Ala Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
           1                  5                  10                  15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser  
                   20                  25                  30  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
           35                  40                  45  
 Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro  
           50                  55                  60  
 Arg Leu Leu Ile Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala  
           65                  70                  75                  80  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
                   85                  90                  95  
 Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser  
           100                  105                  110  
 Asn Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr  
           115                  120                  125

<210> 31  
 <211> 508  
 <212> DNA  
 <213> Homo sapiens

<400> 31  
 ctgaacacag acccgtcgac tcccaggtgt ttccattcag tgatcagcac tgaacacaga 60  
 ggactcacca tggagttggg actgagctgg attttccttt tggctatattt aaaaggtgtc 120  
 cagtgtgaag tgcagctggt ggagtcctgg ggaggcttgg tacagcctgg caggtccttg 180  
 agactctcct gtgcagcctc tggattcacc tttgatgatt atgcatgca ctgggtccgg 240

caagctccag ggaagggcct ggagtgggtc tcaggtatta gttggaatag tggtagcttg 300  
 gtgcatgcgg actctgtgaa gggccgattc accatctcca gagacaacgc caagaactcc 360  
 ctgtatctgc aaatgaacag tctgagagct gaggacacgg ccttgtatta ctgtgcaaga 420  
 gataggctat ttcggggagt taggtactac ggtatggacg tctggggcca agggaccacg 480  
 gtcaccgtct cctcagctag caccaagg 508

<210> 32

<211> 146

<212> PRT

<213> Homo sapiens

<400> 32

Met Glu Leu Gly Leu Ser Trp Ile Phe Leu Leu Ala Ile Leu Lys Gly  
 1 5 10 15

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln  
 20 25 30

Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
 35 40 45

Asp Asp Tyr Ala Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 50 55 60

Glu Trp Val Ser Gly Ile Ser Trp Asn Ser Gly Ser Leu Val His Ala  
 65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn  
 85 90 95

Ser Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Leu  
 100 105 110

Tyr Tyr Cys Ala Arg Asp Arg Leu Phe Arg Gly Val Arg Tyr Tyr Gly  
 115 120 125

Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Ala Ser  
 130 135 140

Thr Lys  
 145

<210> 33  
 <211> 414  
 <212> DNA  
 <213> Homo sapiens

<400> 33  
 ctgctcagtt aggacccaga gggaaccatg gaagccccag ctcagcttct cticctcctg 60  
 ctactctggc tcccagatac caccggagaa attgtgttga cacagtctcc agccaccctg 120  
 tctttgtctc caggggaaag agccaccctc tcctgcaggg ccagtcagag tgtagcagc 180  
 tacttagcct ggtaccaaca gaaacctggc caggctccca ggctcctcat ctatgatgca 240  
 tccaacaggg ccaactggcat cccagccagg ttcagtggca gtgggtcttg gacagacttc 300  
 actctacca tcagcagcct agagcctgaa gattttgcag tttattactg tcagcagcgt 360  
 agccactggc tcactttcgg cgggggggacc aaggtggaga tcaaacgtac ggtg 414

<210> 34  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

<400> 34  
 Met Glu Ala Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
 1 5 10 15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser  
 20 25 30  
 Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
 35 40 45  
 Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro  
 50 55 60  
 Arg Leu Leu Ile Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala  
 65 70 75 80  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
 85 90 95  
 Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser  
 100 105 110



His Trp Leu Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr  
115 120 125

Val

<210> 35  
<211> 493  
<212> DNA  
<213> Homo sapiens

<400> 35  
ctgaacacag acccgtcgac ttccattcgg tgatcagcac tgaacacaga ggactcacca 60  
tggagtttgg gctgagctgg gttttcctcg ttgctctttt aagaggtgtc cagtgtcagg 120  
tgcagctggt ggagtcctgg ggaggcgtgg tccagcctgg gaggtccctg agactctcct 180  
gtgcagcgtc tggattcacc ttcagtagct atggcatgca ctgggtccgc caggctccag 240  
gcaaggggct ggagtgggtg gcagttatat ggtatgatgg aagtattaaa tactatgcag 300  
actccgtgaa gggccgattc accatctcca gagacaattc caagaacacg ctgtatctgc 360  
aatgaacag cctgagagcc gaggacacgg ctgtgtatta ctgtgcgaga gagggctaca 420  
atattttgac tggttatattt ggctactggg gccagggaac cctggtcacc gtctcctcag 480  
ctagcaccaa ggg 493

<210> 36  
<211> 144  
<212> PRT  
<213> Homo sapiens

<400> 36  
Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
1 5 10 15  
Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln  
20 25 30  
Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
35 40 45  
Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
50 55 60

Glu Trp Val Ala Val Ile Trp Tyr Asp Gly Ser Ile Lys Tyr Tyr Ala  
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
100 105 110

Tyr Tyr Cys Ala Arg Glu Gly Tyr Asn Ile Leu Thr Gly Tyr Phe Gly  
115 120 125

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys  
130 135 140

<210> 37

<211> 427

<212> DNA

<213> Homo sapiens

<400> 37

tcacagatct agtcagaccc agtcaggaca cagcatggac atgaggggtcc ccgctcagct 60  
cctgggggtc ctgctgctct ggctcccagg tgccagatgt gtcattctgga tgaccagtc 120  
tccatcctta ctctctgcat ctacaggaga cagagtcacc atcagttgtc ggatgagtca 180  
gggcattagc agtgatttag cctgggtatca gcaaaaacca gggaaagccc ctgagctcct 240  
gatctctgct gcatccactt tgcaaagtgg ggtcccatca aggttcagtg gcagtggatc 300  
tgggacagat ttcactctca ccatcagctg cctgcagtct gaagattttg caacttatta 360  
ctgtcaacag tattatagtt ttccgtggac gttcggccaa gggaccaagg tggaaatcaa 420  
acgtacg 427

<210> 38

<211> 131

<212> PRT

<213> Homo sapiens

<400> 38

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp  
1 5 10 15

Leu Pro Gly Ala Arg Cys Val Ile Trp Met Thr Gln Ser Pro Ser Leu  
 20 25 30

Leu Ser Ala Ser Thr Gly Asp Arg Val Thr Ile Ser Cys Arg Met Ser  
 35 40 45

Gln Gly Ile Ser Ser Asp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys  
 50 55 60

Ala Pro Glu Leu Leu Ile Ser Ala Ala Ser Thr Leu Gln Ser Gly Val  
 65 70 75 80

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 85 90 95

Ile Ser Cys Leu Gln Ser Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln  
 100 105 110

Tyr Tyr Ser Phe Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile  
 115 120 125

Lys Arg Thr  
 130

<210> 39

<211> 492

<212> DNA

<213> Homo sapiens

<400> 39

ctgaacacag acccgtegac ttccattcgg tgatcagcac tgaacacaga ggactcacca 60  
 tggagtttgg gctgagctgg gttttcctcg ttgctctttt aagaggtgtc cagtgtcagg 120  
 tgcagctggt ggagtctggg ggaggcgtgg tccagcctgg gaggtccctg agactctcct 180  
 gtgcagcgtc tggattcacc ttcagtagct atggcatgca ctgggtccgc caggctccag 240  
 gcaagggggt ggagtgggtg gcagttatat ggaatgatgg aagtattaaa tactatgcag 300  
 actccgtgaa gggccgattc accatctcca gagacaattc caagaacacg ctgtatctgc 360  
 aaatgaacag cctgagagcc gaggacacgg ctgtgtatta ctgtgcgaga gagggctaca 420  
 atattttgac tggttatttt ggctactggg gccagggaac cctggtcacc gtctcctcag 480  
 ctagcaccaa gg 492

<210> 40  
 <211> 144  
 <212> PRT  
 <213> Homo sapiens

<400> 40  
 Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Leu Leu Arg Gly  
   1                  5                  10                  15  
 Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln  
                   20                  25                  30  
 Pro Gly Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
           35                  40                  45  
 Ser Ser Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
       50                  55                  60  
 Glu Trp Val Ala Val Ile Trp Asn Asp Gly Ser Ile Lys Tyr Tyr Ala  
   65                  70                  75                  80  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
                   85                  90                  95  
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
           100                  105                  110  
 Tyr Tyr Cys Ala Arg Glu Gly Tyr Asn Ile Leu Thr Gly Tyr Phe Gly  
       115                  120                  125  
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys  
       130                  135                  140

<210> 41  
 <211> 427  
 <212> DNA  
 <213> Homo sapiens

<400> 41  
 tcacagatct agtcagaccc agtcaggaca cagcatggac atgagggtcc ccgctcagct 60

```

cctggggctc ctgctgctct ggctcccagg tgccagatgt gtcattctgga tgacccagtc 120
tccatcctta ctctctgcat ctacaggaga cagagtcacc atcagttgtc ggatgagtca 180
gggcattagc agtgatttag cctgggtatca gcaaaaacca gggaaagccc ctgagctcct 240
gatctctgct gcatccactt tgcaaagtgg ggtcccatca aggttcagtg gcagtggatc 300
tgggacagat ttcaactctca ccatcagctg cctgcagtct gaagattttg caacttatta 360
ctgtcaacag tattatagtt ttccgtggac gttcggccaa gggaccaagg tggaaatcaa 420
acgtacg 427

```

<210> 42

<211> 131

<212> PRT

<213> Homo sapiens

<400> 42

```

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
  1              5              10              15

```

```

Leu Pro Gly Ala Arg Cys Val Ile Trp Met Thr Gln Ser Pro Ser Leu
          20              25              30

```

```

Leu Ser Ala Ser Thr Gly Asp Arg Val Thr Ile Ser Cys Arg Met Ser
          35              40              45

```

```

Gln Gly Ile Ser Ser Asp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys
          50              55              60

```

```

Ala Pro Glu Leu Leu Ile Ser Ala Ala Ser Thr Leu Gln Ser Gly Val
          65              70              75              80

```

```

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr
          85              90              95

```

```

Ile Ser Cys Leu Gln Ser Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
          100             105             110

```

```

Tyr Tyr Ser Phe Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
          115             120             125

```

```

Lys Arg Thr
          130

```

<210> 43  
 <211> 481  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
 ctgaacacag acccgtcgac ttgagagtc ctggacctcc tgtgcaagaa catgaaacat 60  
 ctgtggttct tccttctcct ggtggcagct cccagatggg tcctgtccca ggtgcagctg 120  
 caggagtcgg gcccaggact ggtgaagcct tcggagaccc tgtccctcac ctgcactgtc 180  
 tctggtggct ccatcagtgg ttactactgg agctggatcc ggcagcccc agggaaggga 240  
 ctggagtgga ttgggtatat ctattacagt gggagcacca actacaatcc ctccctcaag 300  
 agtcgagtca ccatatcagt agacacgtcc aagaaccagt tctccctgaa gctgaattct 360  
 gtgaccgctg cggacacggc cgtgtattac tgtgcgagag ccccttgca cggtgactac 420  
 aaatggttcc acccctgggg ccagggaacc ctggtcaccg tctcctcagc tagcaccaag 480  
 g 481

<210> 44  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

<400> 44  
 Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp  
 1 5 10 15  
 Val Leu Ser Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys  
 20 25 30  
 Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile  
 35 40 45  
 Ser Gly Tyr Tyr Trp Ser Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu  
 50 55 60  
 Glu Trp Ile Gly Tyr Ile Tyr Tyr Ser Gly Ser Thr Asn Tyr Asn Pro  
 65 70 75 80  
 Ser Leu Lys Ser Arg Val Thr Ile Ser Val Asp Thr Ser Lys Asn Gln  
 85 90 95

Phe Ser Leu Lys Leu Asn Ser Val Thr Ala Ala Asp Thr Ala Val Tyr  
100 105 110

Tyr Cys Ala Arg Ala Pro Leu His Gly Asp Tyr Lys Trp Phe His Pro  
115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys  
130 135 140

<210> 45

<211> 430

<212> DNA

<213> Homo sapiens

<400> 45

tcacagatct gagctgctca gttaggaccc agagggaacc atggaaaccc cagcgcagct 60  
tctcttcttc ctgtactctt ggctcccaga taccaccgga gaaattgtgt tgacgcagtc 120  
tccaggcacc ctgtctttgt ctccagggga aagagccacc ctctcctgca gggccagtca 180  
gagtgttagc agcagctact tagcctggta ccagcagaaa cctggccagg ctcccaggct 240  
cctcatctat ggtgcatcca gcagggccac tggcatccca gacaggttca gtggcagtgg 300  
gtctgggaca gacttcactc tcaccatcag cagactggag cctgaagatt ttgcagtgta 360  
ttactgtcag cagtatggta gctcaccgat caccttcggc caagggacac gactggagat 420  
caaacgtacg 430

<210> 46

<211> 130

<212> PRT

<213> Homo sapiens

<400> 46

Met Glu Thr Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
1 5 10 15

Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Gly Thr Leu Ser  
20 25 30

Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
35 40 45

Val Ser Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala  
50 55 60

Pro Arg Leu Leu Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro  
65 70 75 80

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile  
85 90 95

Ser Arg Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr  
100 105 110

Gly Ser Ser Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys  
115 120 125

Arg Thr  
130

<210> 47

<211> 462

<212> DNA

<213> Homo sapiens

<400> 47

```

atatgtcgac gagtcatgga tctcatgtgc aagaaaatga agcacctgtg gttcttcctc 60
ctgctgggtgg cggctcccag atgggtcctg tcccagctgc agctgcagga gtcggggccca 120
ggactactga agccttcgga gaccctgtcc ctcacctgca ctgtctctgg cggtccatc 180
agcagtcctg gttactacgg gggctggatc cgccagcccc cagggaaggg gctggagtgg 240
attggggagta tctataaaag tgggagcacc taccacaacc cgtcctcaa gagtcgagtc 300
accatatccg tagacacgtc caagaaccag ttctccctga agctgagctc tgtgaccgcc 360
gcagacacgg ctgtgtatta ctgtacgaga cctgtagtac gatattttgg gtggttcgac 420
ccctggggcc agggaaccct ggtcaccgtc tcctcagcta gc 462

```



<210> 48  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 48

Met	Asp	Leu	Met	Cys	Lys	Lys	Met	Lys	His	Leu	Trp	Phe	Phe	Leu	Leu
1				5					10					15	
Leu	Val	Ala	Ala	Pro	Arg	Trp	Val	Leu	Ser	Gln	Leu	Gln	Leu	Gln	Glu
			20					25					30		
Ser	Gly	Pro	Gly	Leu	Leu	Lys	Pro	Ser	Glu	Thr	Leu	Ser	Leu	Thr	Cys
		35					40					45			
Thr	Val	Ser	Gly	Gly	Ser	Ile	Ser	Ser	Pro	Gly	Tyr	Tyr	Gly	Gly	Trp
	50					55					60				
Ile	Arg	Gln	Pro	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Ile	Gly	Ser	Ile	Tyr
65					70					75					80
Lys	Ser	Gly	Ser	Thr	Tyr	His	Asn	Pro	Ser	Leu	Lys	Ser	Arg	Val	Thr
				85					90					95	
Ile	Ser	Val	Asp	Thr	Ser	Lys	Asn	Gln	Phe	Ser	Leu	Lys	Leu	Ser	Ser
			100					105					110		
Val	Thr	Ala	Ala	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Thr	Arg	Pro	Val	Val
		115					120					125			
Arg	Tyr	Phe	Gly	Trp	Phe	Asp	Pro	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr
	130					135					140				
Val	Ser	Ser	Ala	Ser											
145															

<210> 49  
 <211> 448  
 <212> DNA  
 <213> Homo sapiens

<400> 49  
 agatcttaag caagtgtaac aactcagagt acgcggggag acccactcag gacacagcat 60  
 ggacatgagg gtccccgctc agtccttggg gcttctgctg ctctggctcc caggtgccag 120  
 atgtgccatc cagttgaccc agtctccatc ctccctgtct gcatctgtag gagacagagt 180  
 caccatcact tgccgggcaa gtcagggcac tagcagtgtt ttagcctggg atcagcagaa 240  
 accagggaaa gctcctaagc tcctgatcta tgatgcctcc aatttgaaa gtgggggtccc 300  
 atcaaggttc agcggcagtg gatctggggac agatttcact ctcaccatca gcagcctgca 360  
 gcctgaagat ttgcaactt attactgtca acagtttaat agttaccgga cgttcggcca 420  
 agggaccaag gtggaaatca aacgtacg 448

<210> 50  
 <211> 130  
 <212> PRT  
 <213> Homo sapiens

<400> 50  
 Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp  
 1 5 10 15  
 Leu Pro Gly Ala Arg Cys Ala Ile Gln Leu Thr Gln Ser Pro Ser Ser  
 20 25 30  
 Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser  
 35 40 45  
 Gln Gly Ile Ser Ser Ala Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys  
 50 55 60  
 Ala Pro Lys Leu Leu Ile Tyr Asp Ala Ser Asn Leu Glu Ser Gly Val  
 65 70 75 80  
 Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 85 90 95

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln  
100 105 110

Phe Asn Ser Tyr Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
115 120 125

Arg Thr  
130

<210> 51  
<211> 453  
<212> DNA  
<213> Homo sapiens

<400> 51  
atgtctgtct ccttctcat cttcctgcc gtgctgggcc tcccatgggg tgtcctgtca 60  
caggtacagc tgcagcagtc aggtccagga ctggtgaagc cctcgcagac cctctcattc 120  
acctgtgcc tctccgggga cagtgtctct agcaacagtg ctgcttgga ctggatcagg 180  
cagtccccat cgagaggcct tgagtggctg ggaaggacat actacaggtc caagtgggtat 240  
aaagattatg cagtatctgt gaaaagtcga ataaccatca acccagacac atccaagaac 300  
cagttctccc tgcagctgaa ctctgtgacc cccgaggaca cggctgtgta ttactgtgca 360  
agagggtatt actatgggtc ggggagctat ccctactact accaaatgga cgtctggggc 420  
caagggacca cggtcaccgt ctcctcagct agc 453

<210> 52  
<211> 151  
<212> PRT  
<213> Homo sapiens

<400> 52  
Met Ser Val Ser Phe Leu Ile Phe Leu Pro Val Leu Gly Leu Pro Trp  
1 5 10 15  
Gly Val Leu Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Gly Leu Val  
20 25 30  
Lys Pro Ser Gln Thr Leu Ser Phe Thr Cys Ala Ile Ser Gly Asp Ser  
35 40 45

Val Ser Ser Asn Ser Ala Ala Trp Asn Trp Ile Arg Gln Ser Pro Ser  
50 55 60

Arg Gly Leu Glu Trp Leu Gly Arg Thr Tyr Tyr Arg Ser Lys Trp Tyr  
65 70 75 80

Lys Asp Tyr Ala Val Ser Val Lys Ser Arg Ile Thr Ile Asn Pro Asp  
85 90 95

Thr Ser Lys Asn Gln Phe Ser Leu Gln Leu Asn Ser Val Thr Pro Glu  
100 105 110

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Tyr Tyr Gly Ser Gly  
115 120 125

Ser Tyr Pro Tyr Tyr Tyr Gln Met Asp Val Trp Gly Gln Gly Thr Thr  
130 135 140

Val Thr Val Ser Ser Ala Ser  
145 150

<210> 53

<211> 414

<212> DNA

<213> Homo sapiens

<400> 53

aattgaggaa ctgctcagtt aggacccaga gggaaccatg gaagccccag ctcagcttct 60  
cttcctcctg ctactctggc tcccagatac caccggagaa attgtgttga cacagtctcc 120  
agccaccctg tctttgtctc caggggaaag tgccaccctc tcctgcaggg ccagtcagag 180  
tgttagcagc tacttagcct ggtaccaaca gaaacctggc caggctccca ggctcctcat 240  
ctatgatgca tccaacaggg ccaactggcat cccagccagg ttcagtggca gtgggtcttg 300  
gacagacttc actctcacca tcagcagcct agagcctgaa gattttgcag tttattactg 360  
tcagcagcgt agcaacactt tcggcgaggagg gaccaaggtg gagatcaaac gaac 414

<210> 54  
 <211> 125  
 <212> PRT  
 <213> Homo sapiens

<400> 54  
 Met Glu Ala Pro Ala Gln Leu Leu Phe Leu Leu Leu Leu Trp Leu Pro  
           1                  5                  10                  15  
 Asp Thr Thr Gly Glu Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser  
                   20                  25                  30  
 Leu Ser Pro Gly Glu Ser Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser  
           35                  40                  45  
 Val Ser Ser Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro  
           50                  55                  60  
 Arg Leu Leu Ile Tyr Asp Ala Ser Asn Arg Ala Thr Gly Ile Pro Ala  
           65                  70                  75                  80  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser  
                   85                  90                  95  
 Ser Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Arg Ser  
           100                  105                  110  
 Asn Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg  
           115                  120                  125

<210> 55  
 <211> 495  
 <212> DNA  
 <213> Homo sapiens

<400> 55  
 ctgaacacag acccgtcgac tacgcgggag accacagctc cacaccatgg actggacctg 60  
 gaggatccta ttcttggtgg cagcagcaac aggtgcccac tcccaggtgc agctggtgca 120  
 atctgggtct gaggatgaaga agcctggggc ctcagtgaag gtcccctgca aggcttctgg 180  
 atacaccttc actagctatg ctatgaattg ggtgcgacag gccccctggac aagggcttga 240

```

gtggatggga tggatcaaca ccaacactgg gaacccaacg tatgcccagg gcttcacagg 300
acggtttgtc ttctccttgg acacctctgt cagcacggca tatctgcaga tcagcagcct 360
aaaggctgag gacactgccg tgtattactg tgcgagagag gtagtaccag ttgctatgag 420
ggtaactcac tactactacg gtatggacgt ctggggccaa gggaccacgg tcaccgtctc 480
ctcagctagc accaa                                         495

```

<210> 56  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

```

<400> 56
Met Asp Trp Thr Trp Arg Ile Leu Phe Leu Val Ala Ala Ala Thr Gly
  1             5             10             15

Ala His Ser Gln Val Gln Leu Val Gln Ser Gly Ser Glu Leu Lys Lys
          20             25             30

Pro Gly Ala Ser Val Lys Val Pro Cys Lys Ala Ser Gly Tyr Thr Phe
          35             40             45

Thr Ser Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
          50             55             60

Glu Trp Met Gly Trp Ile Asn Thr Asn Thr Gly Asn Pro Thr Tyr Ala
          65             70             75             80

Gln Gly Phe Thr Gly Arg Phe Val Phe Ser Leu Asp Thr Ser Val Ser
          85             90             95

Thr Ala Tyr Leu Gln Ile Ser Ser Leu Lys Ala Glu Asp Thr Ala Val
          100            105            110

Tyr Tyr Cys Ala Arg Glu Val Val Pro Val Ala Met Arg Val Thr His
          115            120            125

Tyr Tyr Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val
          130            135            140

```

Ser Ser Ala Ser Thr  
145

<210> 57  
<211> 830  
<212> DNA  
<213> Homo sapiens

<400> 57  
ctgggtacgg taaccgtcag atcgccctgga gacgccatca cagatctgcc tcaggaagca 60  
gcatcggagg tgcctcagcc atggcatgga tccctctctt cctcggcgtc ctgtgttact 120  
gcacaggatc cgtggcctcc tatgagctga ctcagccacc ctcagtgtcc gtggccccag 180  
gacagacagc cagcatcacc tgttctggag ataaattggg ggataatttt acttgctggt 240  
atcagcagaa gccaggccag tcccctgtgc tggatcatctt tcaggattgg aagcggcgcc 300  
cagggatccc tgcgcgattc tctggctcca agtctgggaa cacagccact ctgaccatca 360  
gcgggaccca ggctatggat gaggctgact attactgtca ggcgtgggac atcagcactg 420  
tggtattcgg cggagggacc aagctgaccg tcctaggtca gccaaggct gccccctcgg 480  
tcactctgtt cccgccctcc tctgaggagc ttcaagccaa caaggccaca ctggtgtgtc 540  
tcataagtga cttctacccg ggagccgtga cagtggcctg gaaggcagat agcagccccg 600  
tcaaggcggg agtggagacc accacaccct ccaaacaaag caacaacaag tacgcggcca 660  
gcagctacct gagcctgacg cctgagcagt ggaagtccca cagaagctac agctgccagg 720  
tcacgcatga agggagcacc gtggagaaga cagtggcccc tacagaatgt tcatgaattc 780  
agatccgtta acggttacca actacctaga ctggattcgt gaccaacata 830

<210> 58  
<211> 231  
<212> PRT  
<213> Homo sapiens

<400> 58  
Met Ala Trp Ile Pro Leu Phe Leu Gly Val Leu Val Tyr Cys Thr Gly  
1 5 10 15  
Ser Val Ala Ser Tyr Glu Leu Thr Gln Pro Pro Ser Val Ser Val Ala  
20 25 30  
Pro Gly Gln Thr Ala Ser Ile Thr Cys Ser Gly Asp Lys Leu Gly Asp  
35 40 45

Asn	Phe	Thr	Cys	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Val	Leu	
	50					55					60					
Val	Ile	Phe	Gln	Asp	Trp	Lys	Arg	Arg	Pro	Gly	Ile	Pro	Ala	Arg	Phe	
65					70					75					80	
Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Thr	Leu	Thr	Ile	Ser	Gly	Thr	
				85					90					95		
Gln	Ala	Met	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ala	Trp	Asp	Ile	Ser	
			100				105						110			
Thr	Val	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu	Gly	Gln	Pro	
	115						120					125				
Lys	Ala	Ala	Pro	Ser	Val	Thr	Leu	Phe	Pro	Pro	Ser	Ser	Glu	Glu	Leu	
	130					135					140					
Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	Asp	Phe	Tyr	Pro	
145					150					155					160	
Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Ser	Ser	Pro	Val	Lys	Ala	
				165					170					175		
Gly	Val	Glu	Thr	Thr	Thr	Pro	Ser	Lys	Gln	Ser	Asn	Asn	Lys	Tyr	Ala	
		180						185					190			
Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	Lys	Ser	His	Arg	
	195						200					205				
Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	Val	Glu	Lys	Thr	
	210					215					220					
Val	Ala	Pro	Thr	Glu	Cys	Ser										
225					230											



<210> 59  
 <211> 520  
 <212> DNA  
 <213> Homo sapiens

<400> 59  
 gctgatcagg actgcacaca gagaactcac catggagttt gggctgagct gggttttcct 60  
 tgttgctatt ttaaaagggtg tccagtgtga ggtgcagctg gtggagtccg ggggaggctt 120  
 agttcagcct ggggggtccc tgagactctc ctgtgcagtc tctggattca ccttcagtac 180  
 ctactggatg cactgggtcc gccaaagctcc agggaagggg ctggtgtggg tctcacgtat 240  
 taatagtgat gggagtagca caacctacgc ggactccgtg aagggccgat tcaccatctc 300  
 cagagacaac gccaagaaca cgctgtatct gcaaataaac agtctgagag ccgaggacac 360  
 ggctgtgtat tactgtgcaa gagatagagt actatggatc ggggagttat cctactacgg 420  
 tatggacgtc tggggccaag ggaccacggt caccgtctcc tcagctagca ccaagggccc 480  
 atcggtcttc cccctggcac cctcctccaa gagcacctct 520

<210> 60  
 <211> 163  
 <212> PRT  
 <213> Homo sapiens

<400> 60  
 Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Ala Ile Leu Lys Gly  
 1 5 10 15  
 Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln  
 20 25 30  
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Val Ser Gly Phe Thr Phe  
 35 40 45  
 Ser Thr Tyr Trp Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
 50 55 60  
 Val Trp Val Ser Arg Ile Asn Ser Asp Gly Ser Ser Thr Thr Tyr Ala  
 65 70 75 80  
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn  
 85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
100 105 110

Tyr Tyr Cys Ala Arg Asp Arg Val Leu Trp Ile Gly Glu Leu Ser Tyr  
115 120 125

Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser  
130 135 140

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys  
145 150 155 160

Ser Thr Ser

<210> 61

<211> 698

<212> DNA

<213> Homo sapiens

<400> 61

```

ggggagtcag acccagtcag gacacagcat ggacatgagg gtccccgctc agtcctctggg 60
gtcctgtctg ctctggctcc caggtgccaa atgtgacatc cagatgaccc agtctccttc 120
caccctgtct gcattctgtag gagacagagt caccatcact tgccgggcca gtcagagtat 180
tagtaactgg ttggcctggg atcagcagaa accagggaaa gccctaagc tcctgctcta 240
taaggcatct ggtttagaaa gtgggggtccc atcaaggttc agcggcagtg gatctgggac 300
agaattcact ctcaccatca acagcctgca gcctgatgat ttgcaactt attactgcca 360
acagtcta atgtattcgt ggacgttcgg ccacgggacc aaggtggaaa tcaaacgtac 420
ggtggctgca ccattctgtc tcattctccc gccattctgat gagcagttga aatctgggaa 480
tgcctctgtt gtgtgcctgc tgaataactt ctatcccaga gaggccaaag tacagtggaa 540
ggtggataac gccctccaat cgggtaactc ccaggagagt gtcacagagc aggacagcaa 600
ggacagcacc tacagcctca gcagcaccct gacgctgagc aaagcagact acgagaaaca 660
caaagtctac gcctgcgaag tcacccatca gggcctga 698

```

<210> 62  
<211> 223  
<212> PRT  
<213> Homo sapiens

<400> 62

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp  
1 5 10 15

Leu Pro Gly Ala Lys Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Thr  
20 25 30

Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser  
35 40 45

Gln Ser Ile Ser Asn Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys  
50 55 60

Ala Pro Lys Leu Leu Leu Tyr Lys Ala Ser Gly Leu Glu Ser Gly Val  
65 70 75 80

Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr  
85 90 95

Ile Asn Ser Leu Gln Pro Asp Asp Phe Ala Thr Tyr Tyr Cys Gln Gln  
100 105 110

Ser Asn Ser Tyr Ser Trp Thr Phe Gly His Gly Thr Lys Val Glu Ile  
115 120 125

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp  
130 135 140

Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
145 150 155 160

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
165 170 175

Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
180 185 190

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr  
 195 200 205

Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu  
 210 215 220

<210> 63  
 <211> 630  
 <212> DNA  
 <213> Homo sapiens

<400> 63  
 ggtctatata agcagagctg ggtacgtcct cacattcagt gatcagcact gaacacagac 60  
 ccgtcgacgg tgatcaggac tgaacagaga gaactcacca tggagtttgg gctgagctgg 120  
 ctttttcttg tggctatattt aaaaggtgtc cagtgtgagg tgcagctgtt ggagtctggg 180  
 ggaggcttgg tacagcctgg ggggtccctg agactctcct gtgcagcctc tggattcacc 240  
 ttttagcagct atgccatgag ctgggtccgc caggctccag ggaaggggct ggagtgggtc 300  
 tcagctatta gtggtagtgg tggtagcaca tactacgcag actccgtgaa gggccgggtc 360  
 accatctcca gagacaattc caagaacacg ctgtatctgc aaatgaacag cctgagagcc 420  
 gaggacacgg ccgtatatta ctgtgcgaaa gatggggggg actatgggtc ggggagttat 480  
 ggggtactttg actactgggg ccagggaacc ctggtcaccg tctcctcagc tagcaccaag 540  
 ggcccatcgg tcttccccct ggcaccctcc tccaagagca cctctggggg cacagcggcc 600  
 ctgggctgcc tgggtcaagga ctacttcccc 630

<210> 64  
 <211> 177  
 <212> PRT  
 <213> Homo sapiens

<400> 64  
 Met Glu Phe Gly Leu Ser Trp Leu Phe Leu Val Ala Ile Leu Lys Gly  
 1 5 10 15  
 Val Gln Cys Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln  
 20 25 30  
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe  
 35 40 45

Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu  
50 55 60

Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala  
65 70 75 80

Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn  
85 90 95

Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val  
100 105 110

Tyr Tyr Cys Ala Lys Asp Gly Gly Tyr Tyr Gly Ser Gly Ser Tyr Gly  
115 120 125

Tyr Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala  
130 135 140

Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser  
145 150 155 160

Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe  
165 170 175

Pro

<210> 65

<211> 728

<212> DNA

<213> Homo sapiens

<400> 65

caagcagtgg taacaacgca gagtacgagg ggggagtcag acccagtcag gacacagcat 60  
ggacatgagg gtccccgctc agtcctctggg gctcctgctg ctctggttcc caggttccag 120  
atgcgacatc cagatgaccc agtctccatc ttccgtgtct ggatctgtag gagacagagt 180  
caccatcact tgtcggggcga gtcagggtat tagcagctgg ttagcctggg atcagcagaa 240  
accagggaaa gcccttaagc tctgatcta tgctggatcc agtttgcaaa gtgggggtccc 300  
atcaagggtc agcggcagtg gatttgggac agatttcact ctcaccatca gcagcctgca 360  
gcctgaagat tttgcaactt actattgtca acaggctagc agtttcctc ggacattcgg 420

```

ccaagggacc aaggtggaga tcaaacgtac ggtggctgca ccatctgtct tcattttccc 480
gccatctgat gagcagttga aatctggaac tgcctctgtt gtgtgcctgc tgaataactt 540
ctatcccaga gaggccaaag tacagtggaa ggtggataac gccctccaat cgggtaactc 600
ccaggagagt gtcacagagc aggacagcaa ggacagcacc tacagcctca gcagcacctt 660
gacgtgagc aaagcagact acgagaaaca caaagtctac gcctgcgaag tcacccatca 720
gggcctga
728

```

<210> 66  
 <211> 223  
 <212> PRT  
 <213> Homo sapiens

<400> 66

```

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
 1              5              10              15

Phe Pro Gly Ser Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser
      20              25              30

Val Ser Gly Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser
      35              40              45

Gln Gly Ile Ser Ser Trp Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys
      50              55              60

Ala Pro Lys Leu Leu Ile Tyr Ala Gly Ser Ser Leu Gln Ser Gly Val
      65              70              75              80

Pro Ser Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr
      85              90              95

Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln
      100              105              110

Ala Ser Ser Phe Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
      115              120              125

Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
      130              135              140

```

Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn  
145 150 155 160

Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu  
165 170 175

Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp  
180 185 190

Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr  
195 200 205

Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu  
210 215 220